Eashan Gandotra

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EXPERIENCE

- **Chicago Trading Company** — Chicago, IL
  Quantitative Researcher, Equities Desk — *October 2024 - Present*
  - Develop and maintain production volatility pricing models using finite difference methods in C++ for equity options, optimizing numerical stability and computational performance
  - Build automated volatility surface fitting algorithms in Python to calibrate term structure and smile dynamics
  - Design and implement risk analysis frameworks to monitor and manage Greek exposures across portfolio positions
  - Research and deploy statistical signals for volatility trading strategies using time series analysis and machine learning techniques

- **Chicago Trading Company** — Chicago, IL
  Quant Trading Analyst, Equities Desk — *August 2023 - October 2024*
  - Developed optimization algorithms for trade pairing and variance reduction strategies
  - Completed coursework in options theory, mock trading, data science, and data modeling

- **Chicago Trading Company** — Chicago, IL
  Quant Trading Analyst Intern — *May 2022 - August 2022*
  - Created Python application to manage risk exposure to imperfect correlation between gold futures and ETFs
  - Won CTC Hackweek "Fresh Eyes" award for researching sports betting edge using neural networks

- **McKesson Corporation** — Remote
  Automation Engineer Intern — *May 2021 - August 2021*
  - Built Jenkins CI/CD pipeline to automate infrastructure provisioning and deployment workflows
  - Scripted in Bash and PowerShell to create OS-agnostic automation tools

EDUCATION

- **Georgia Institute of Technology** — Atlanta, GA
  Bachelor of Science in Mathematics, Minor in Computing and Intelligence — *August 2019 - May 2023*
  GPA: *3.96, Dean's List for all semesters*

- **Budapest Semesters in Mathematics** — Budapest, Hungary
  Research oriented coursework in game theory, number theory, graph theory, and non-Euclidean geometry — *Spring 2022*
  GPA: *4.0*

TECHNICAL SKILLS

- **Languages**: Python, C++, SQL
- **ML & Data Science**: scikit-learn, pandas, numpy, PyTorch, statistical modeling, time series analysis, regression analysis
- **Tools & Infrastructure**: Git, Linux, Jenkins, Vault, LaTeX
- **Domain Expertise**: Numerical methods (finite difference, PDE solvers), stochastic calculus, optimization algorithms, volatility modeling, risk management, derivatives pricing, statistics, mathematics

PROJECTS

- **Sloth - Super Auto Pets AI**: AI agent for the auto-chess game Super Auto Pets using Monte Carlo tree search, heuristic evaluation functions, and reinforcement learning techniques to navigate complex game-state spaces. Technical writeup: mark-ni.github.io/SuperAutoPetsAI
- **Terminal Competition Agents**: Developed a top 100 (out of 50,000+) heuristic-driven Python agents for Terminal, an adversarial resource management game on Kaggle, using game theory and dynamic programming optimization
- **Combinatorial Card Arrangements**: Collaborated with Georgia Tech professor Dr. Matt Baker on novel card deck arrangements based on de Bruijn sequences, enabling algorithmic magic tricks through combinatorial mathematics

*See GitHub for additional projects and implementation details

HONORS AND AWARDS

- **William Lowell Putnam Exam**: Top 1000 (2019, 2021, 2022) and top 500 (2020) on undergraduate mathematics competition
- **ICPC Regional Competition**: Competed on Georgia Tech's top undergraduate team in the North American Championship
- **Competitive Programming**: 500+ problems solved on Codeforces (peak rating: 1898) and 500+ solutions on Art of Problem Solving
- **American Invitational Mathematics Examination**: Top 2.5% on AMC 12, scored 75th percentile on AIME